CLAIMS

1. A honeycomb structure comprising a plurality of honeycomb segments having a plurality of cells partitioned by porous partition walls and functioning as fluid channels and outer walls, the honeycomb segments being bonded to one another by means of a bonding material containing a ceramic as a main component,

wherein a three-point bending strength of a bonding layer formed of the bonding material is 5 MPa or more, and a shearing strength of a bonded portion including the bonding layer and the outer walls sandwiching this bonding layer therebetween is 1 MPa or more.

2. The honeycomb structure according to claim 1, wherein the bonding material contains inorganic particles, an oxide fiber, and a colloidal oxide.

3. The honeycomb structure according to claim 1 or 2, wherein the bonding material contains a foamed resin.

4. A method of manufacturing a honeycomb structure comprising a plurality of honeycomb segments having a plurality of cells partitioned by porous partition walls and functioning as fluid channels, the honeycomb segments being bonded to one another by means of a bonding material containing a ceramic as a main component, wherein a heat treatment at a temperature of 400 to 1200°C is performed in a state that the plurality of honeycomb segments are bonded by means of the bonding material.